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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,573	07/13/2004	Hiroshi Yamamoto	EL/2-22607/CGJ 126/PCT	9324
324 7590 09/04/2007 CIBA SPECIALTY CHEMICALS CORPORATION PATENT DEPARTMENT 540 WHITE PLAINS RD P O BOX 2005 TARRYTOWN, NY 10591-9005			EXAMINER CROUSE, BRETT ALAN	
			ART UNIT 1774	PAPER NUMBER
			MAIL DATE 09/04/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,573	<b>Applicant(s)</b> YAMAMOTO ET AL.	
	<b>Examiner</b> Brett A. Crouse	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2-12 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-8, 10 and 12 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action is in response to the amendment, filed 31 May 2007, which amends claims 2, 8 and 12. Claims 2-8, 10 and 12 are under consideration.

#### ***Response to Amendment***

The amendment, filed 31 May 2007, with respect to the rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by (Hendi, US 5,786,487), overcomes the rejection due to the cancellation of claim 1.

The amendment, filed 31 May 2007, with respect to the rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by (Mizuguchi et al., US 5,808,094), overcomes the rejection due to the cancellation of claim 1.

Applicant's arguments, filed 31 May 2007, with respect to the rejection of claims 1, 2, 3, 4, and 5 under 35 U.S.C. 102(b) as being anticipated by (Eldin, US 5,919,944), have been fully considered and are persuasive. The rejection of claims 1-5 has been withdrawn.

Applicant's arguments, filed 31 May 2007, with respect to the rejection of claims 6, 7, and 10 under 35 U.S.C. 103(a) as being unpatentable over (Eldin, US 5,919,944), have been fully considered and are persuasive. The rejection of claims 6, 7 and 10 has been withdrawn.

Applicant's arguments with respect to claims 2-7 and 10 have been considered but are moot in view of the new ground(s) of rejection set forth below.

#### ***Claim Objections***

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Claim 10 is objected to as depending from cancelled claim 1. For purposes of examination claims 10 is treated as depending from claim 2.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-8, 10 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Otani et al., EP 1,087,006 hereinafter known as Otani as evidenced by ("Color", <http://en.wikipedia.org/wiki/Color>).

Otani teaches:

As to claims 2-5, 8 and 12:

Paragraph [0001], formula I, formula III, teaches an electroluminescent device (EL) comprising in order an anode, a hole transport layer, a light-emitting layer, an optional electron transport layer, and a cathode. The EL device can comprise compound(s) of formula I in the light emitting layer.  $R_1$  and  $R_2$  of formula I can be independently selected as  $C_1$ - $C_{25}$  alkyl, allyl or  $-CR_3R_4-(CH_2)_m-AR_3$ .  $Ar_1$  and  $Ar_2$  of formula I can be independently selected as substituted or unsubstituted aromatic, condensed aromatic or conjugated aromatic groups. Additionally,  $Ar_1$  and  $Ar_2$  can be independently selected as substituted or unsubstituted carbazoles or 4-diphenylamino phenylene groups.

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Paragraph [0020], teaches that the light emitting layer can comprise two or more compounds of formula I to act as energy donors or energy acceptors.

Paragraph [0003], teaches that it is commonly known in the art to employ a two component (guest-host) composition as the light-emitting materials in an EL device.

Paragraph [0011], teaches that it is important in a (guest-host) system that the fluorescent spectrum of the host overlaps the absorption spectrum of the guest material.

Paragraph [0017], teaches that the object of Otani is to provide EL devices emitting red, yellow or orange light.

The teachings of the overlap of the fluorescence and absorption spectrums of a guest-host system in combination with the teaching of red, yellow and orange emission is treated as evidence that the wavelengths of fluorescence and absorption meet the respective wavelength limitations as recited in claim 2

“Color”, <http://en.wikipedia.org/wiki/Color> as evidence:

“Color” teaches that the spectrum for red, yellow and orange light is about 630-700nm, 590-630nm and 560-590nm respectively.

As to claims 6 and 7:

Paragraph [0055], provides preferred compounds of formula I.

As to claim 10:

Paragraph [0038], teach a composition of light emitting material and a polymer binder (high molecular weight organic material) formed by mixing the light emitting material with a polymer binder. The ratio of binder to light emitting material is in the range of 10:1 to 1:50.

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In the alternative:

If the lack of an example in which two diketopyrrolopyroles are used in the light emitting layer renders the reference non-anticipatory it would have been obvious to one of ordinary skill in the art to use a combination of diketopyrrolopyroles in the light emitting layer of an EL device with an expectation of success in forming a device having suitable properties based on the teachings of Otani and the use of diketopyrrolopyroles with polymers, as host materials and as guest materials such as in examples 68, 103 and 104.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 12 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 6,603,020. Although the conflicting

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claims are not identical, they are not patentably distinct from each other because the compounds of formulae 1 and 2 of claim 12 of the instant invention include groups overlapping the allowed groups of  $Ar_1$ ,  $Ar_2$ ,  $R_1$  and  $R_2$  and the further substituents thereupon of claims 1 and 2 of US 6,603,020.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is 571-272-6494. The examiner can normally be reached on Monday - Friday 6:00AM - 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BAC, 30 August 2007



MILTON I. CANO  
SUPERVISORY PATENT EXAMINER